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LOC Questions and Clarifications Memorandum

To: Solicited Vendors for Letter of Configuration (LOC) Number 37735, dated June 19, 2008 for the Mississippi Department of Employment Security (MDES)

From: David L. Litchliter

Date: July 1, 2008

Subject: Responses to Questions Submitted and Clarifications to Specifications

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The following questions were submitted to ITS and are being presented as they were submitted, except to remove any reference to a specific Vendor. This information should assist you in formulating your response.

Question 1: Section 5.1.1 requests the Vendor must provide expansion pricing in Attachment A. Could you elaborate on the capacity required for expansion pricing in terabytes and disk type and disk size?

Response: At a minimum, whatever is required for the current configuration, which is 64 TB.

Question 2: Section 5.1.2 states, "This connectivity must include all intermediary equipment (e.g. switches), cables, and adapters required to facilitate connectivity between the SAN and the storage network."

Question 2A: Between the existing servers and new Brocade Fiber switches, will any new fiber cables be required, if so, what cable length?

Response: Approximately 50' of new fiber cables will be required. MDES and ITS have attempted to identify all functional/technical requirements, but it is the Vendor's responsibility to propose all equipment/services necessary to deliver and implement a fully functioning SAN.

Question 2B: Between the existing servers and new Brocade Fiber Switches, will any new fiber adapters be required, if so how many and either single port or dual port be required?

Response: MDES doesn't anticipate a need for any new server HBAs, but there should be new gbics in the switches. MDES/ITS have attempted to identify all functional/technical requirements, but it is the Vendor's responsibility to propose all equipment/services necessary to deliver and implement a fully functioning SAN.

Question 3:   Item 5.1.2 requires connectivity to Qlogic and Emulex HBAs. Is this specification referencing HBAs that are already in use at MDES? If so, are they "currently manufactured" 4 gigabit HBAs?

Response: Yes, this specification is referring to the 2 gigabit HBAs already in use at MDES.

Question 3B: If a Vendor should wish to include new replacement HBAs for HBAs currently in use (in addition to the HBAs listed in Attachment E) would that be acceptable?

Response: Vendors may propose replacement HBAs as a separate line item, along with a detailed explanation as to why they believe replacement is in the best interest of MDES.

Question 4:   Item 5.1.3 requires a hot spare drive. Virtualization technology used by some manufacturers accomplishes this end result with the use of a hot virtual spare drive. Is a hot virtual spare drive acceptable?

Response: Yes. Item 5.1.3 in the LOC should now read:

   "That contains at least one hot spare, hot virtual spare, or hot reserve drive comparable in size to the other active drives."

Question 5:   Item 5.1.4 requires support for a PC/Notebook operating system (Windows 2000/XP/Vista). The General Overview only mentioned support for servers as the goal of MDES. Will ITS drop the spec for client computer support?

Response: Yes. Item 5.1.4 in the LOC should now read:

   "That supports connections to servers running Netware Version 6 and Linux, Solaris and AIX Operating Systems."

Question 6:   Item 5.1.6 requires software to easily reclaim allocated storage regardless of NOS. A number of major SAN manufacturers' "shrink volume feature" only currently supports the Windows Server NOS. If a Vendor's LOC response takes an exception to support of this shrink volume feature by other operating systems, will that disqualify the Vendor or would it simply cause a minor negative scoring adjustment in the "Functional/Technical Specifications" category?

Response: MDES intends this to be more of a do / un-do functionality. In other words, the intent is to have a feature that would allow allocated storage to be reclaimed it if it is no longer needed. A Vendor's proposal will not be disqualified for taking

exception to this feature; however, if exception is taken, Vendor should include a thorough explanation of how MDES' objective can be accomplished in alternate ways.

Question 7: Section 5.1.7, will MDES require point in time copies (Snapshots) of the data volumes? If so how many LUNS will require Snapshots.

Response: This is not a functional requirement at this time because this functionality is not currently in place. However, MDES wants to ensure that the software is capable in the event that MDES wants to add that functionality in the future.

Question 8: How many hosts of each type (AIX, Linux, SUN, Novell, Windows, and VMware) will be attached to the proposed disk subsystem via the SAN switches?

Response: There are approximately 18 AIX, 4 Linux, 15 Solaris, 4 VMWARE, 8 Win2000 Server, and 16 Win2003 Server hosts.

Question 8B: Will device drivers and update firmware need to be installed on each of the hosts?

Response: This is not a requirement of the LOC.

Question 8C: Do all of the hosts have fiber cards installed?

Response: Yes.

Question 8D: How many LUNs need to be created on the proposed disk subsystem?

Response: Approximately 130 to 140 LUNs.

Question 8E: Will any of the hosts boot from the proposed disk subsystem?

Response: Yes.

Question 8F: If so, how many and which types?

Response: Approximately 70 to 80 SUN, AIX, Windows 2003 Server, and Novell servers.

Question 9: Section 8.3, pricing for 3 years post-warranty maintenance and support on the proposed storage solution, the standard warranty for the disk subsystem is 3 years 9x5 next business day, this will be priced out to uplift to 24x7 warranty. Does MDES require pricing for 3 additional years of 24x7 maintenance beyond the initial 3 year warranty period?

Response: No, the initial 3 year warranty is sufficient.

Question 10: Attachment E, line item 2 shows that the Sun configuration accomplishes some of the desired storage by using 300GB Fibre Channel drives. Is it acceptable for a

Vendor to accomplish that desired storage capacity by proposing 450GB Fibre Channel drives?

Response: Yes, if the speed is 15k or better.

2	SG-XSWBRO5000-32-Z	**Brocade SW5000 with 32 active ports WebTools and Zoning**
		software. Includes two US power cords, dual hot-swappable power
		supplies, and mounting ears for mounting in a 19" rack. RoHS-5
		Compliant.No SFPs or fibre channel cables are included.
8	XSFP-SW-4GB-4PK	4 pack of Small Form Pluggable shortwave Fibre Channel optical
		transceivers capable of 4Gb, 2Gb, and 1Gb transfer rates. RoHS-5
		compliant.

Question 10B: The above detailed configuration lists 32 active ports for two primary switches. Below it lists quantity 8 four pack transceivers for a total of 32 transceivers. This yields only 16 transceivers per switch. Will MDES require 32 usable ports or 16 usable ports per switch?

Response: It is MDES' understanding that the switch comes with 8 ports already, which would give MDES 24 ports in each switch.

Question 10C: If 32 usable ports are required then the total quantity required for transceivers would be 16 4-packs instead of 8 4-packs?

Response: See response to Question 11.

Question 11: Does MDES have a current diagram of the current SAN configuration layout with current number of servers connected and current ports used on existing fiber switch equipment.

Response: Yes. The winning Vendor will have access to this information.

Question 12: A Vendor may be able to make a 99% guaranty that delivery can be made before August 18th, but is difficult to make that guaranty with 100% certainty due to unknown factors (i.e. freight loss, etc.). How critical is the August 18th requirement?

Response: MDES has on-going projects that are dependent on this time line. If the Vendor is unable to meet this date, alternative dates may be proposed, but acceptance of those dates is at MDES' discretion.

Question 12B: If delivery should not be made prior to August 18th, does MDES lose the FY08 money allocated for this project and thus would MDES loose it ability to pay the Vendor?

Response: MDES funds are not contingent upon August 18th delivery.

Question 13: Due to the complexity of the MDES storage network, please clarify if manufacturer installation is required.

Response: Yes, manufacturer installation is required.

Question 14: Is it MDES' intent to procure the defined Sun solution?

Response: It is the intent of MDES to purchase the SAN solution (SUN or otherwise) that meets the minimum stated requirements and provides the best value at the lowest cost.

Question 15: Does install need to include assistance with data migration?

Response: Only to the extent specified in the LOC; MDES plans to contract with the Falconstor installation team to accomplish data migration.

LOC responses are due July 7, 2008, at 3:00 p.m. (Central Time).

If you have any questions concerning the information above or if we can be of further assistance, please contact Rita Rutland at 601-855-3193 or via email at rita.rutland@its.state.ms.us.

cc: File 37735